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ABSTRACT

The 1983 North Carolina Dropout Study and the 1988 North Carolina Follow-Up Dropout Study were conducted to provide baseline dropout data for North Carolina public high schools, to provide estimates of dropout rates, and to explore possible factors contributing to a student's decision to leave high school. The results of the 1983 study indicated that 26 to 28 percent of North Carolina public school ninth-graders did not graduate from a North Carolina public high school within the next 5 years. Students in the 1988 sample were classified as known graduates, known dropouts, and indeterminates. For the random sample of 2,011 students, the percentage of known graduates was 75.1 percent and the percentage of estimated graduates was 77 percent. The on-going At Risk Study (1987-1991) is being conducted to explore factors which put a student at risk of dropping out. School behavior and performance differences between graduates and dropouts were investigated, including grade retention, achievement test performance, and pre-school attendance. Student reported reasons for leaving school were also examined. Further steps should include support for efforts to achieve a standard definition of school dropout; local data collection; increased monitoring; evaluation of program effectiveness for at-risk students; sharing of information; and implementation of recent task force and legislative recommendations. (ABL)

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WHAT DO WE KNOW ABOUT NORTH CAROLINA PUBLIC SCHOOL DROPOUTS?

by Carol Speas, Ph.D.

October 1989

Bob Etheridge, State Superintendent of Public Instruction

PREFACE

Local, state, and national researchers have documented the social and economic costs of the dropout problem. The estimates are that more than half of all U.S. dropouts are unemployed, that about 70 percent of all prison inmates are high school dropouts, that 60 to 75 percent of teenage parents are high school dropouts, and that the annual cumulative cost of dropouts in social services benefits and lost tax revenues amounts to billions of dollars. In 1987, the North Carolina Office of Policy and Planning estimated the costs to North Carolina citizens at $3.73 billion per high school class. At the same time, businesses report spending large sums of money for remedial training for employees, and a U.S. Department of Labor analysis of employment trends predicts that more than 85 percent of all jobs in the approaching 21st Century will require at least a high school education and that one-half of the jobs may require post-secondary education. In the midst of this, North Carolina youth face unprecedented pressures, and substantial numbers of them are at risk of reaching adulthood inadequately prepared for changing employment requirements, family and community responsibilities, and participation in the democratic process. A joint task of parents, educators, communities, and businesses is to determine the specific needs of our youth and to provide means of best meeting those needs.

The purpose of this report is to share the results of recent North Carolina school dropout research so that they can be used together with national research results and local data to arrive at a better understanding of dropout issues and to combat the dropout problem in area schools. The report includes summaries of the research and the derived dropout rates, an exploration of possible factors contributing to students' dropping out of school, and a discussion of implications of the research and some suggested next steps for dropout prevention.

Bob Etheridge
State Superintendent of Public Instruction

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The author also gratefully acknowledges the extensive research efforts of Susan Gray-Silva, Jama Grund, and John Larus, under the direction of Mark Appelbaum at the UNC-CH Thurstone Psychometric Laboratory and in conjuction with DPI. Descriptions of the sampling, data collection, and analysis activities for the individual studies are in the technical and special studies reports.

A valuable source of information was the 1988 report on dropout factors in North Carolina secondary schools prepared for the Joint Legislative Commission on Governmental Operations by Research and Evaluation Associates, Inc. of Chapel Hill.

Special thanks are due to DPI staff members who have contributed to the production of this report by sharing data and providing advice and assistance. Those sharing data were Evan Sun and Engin Konanc of the Information Center, William Hennis and Chris Ringwalt of Accountability Services, and Gloria Bowman of Education Information Services. The reviewers were Cynthia Howard of Student Services; Adrienne Silvey, Henry Helms, and Darrell Arnold of Accountability Services; and Betsy Wright and Jackie Colbert of the Dropout Prevention Section. Angie Joyner provided word processing services.

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WHAT DO WE KNOW ABOUT N. C.

PUBLIC SCHOOL DROPOUTS ?

Summary of the Research Conducted and the Derived Dropout Rates

1983 and 1988 North Carolina Dropout Studies

The 1983 North Carolina Dropout Study and the 1988 North Carolina Follow-Up Dropout Study were conducted jointly by the Department of Public Instruction's Research and Development Services and the Thurstone Psychometric Laboratory in the Department of Psychology of the University of North Carolina at Chapel Hill (UNC-CH) in order to provide baseline dropout data for North Carolina public high schools, provide estimates of dropout rates, and explore possible factors contributing to a student's decision to leave high school. The results of the 1983 study of a random sample of students who had taken the California Achievement Test as ninth-graders in spring 1979 indicated that 26 to 28 percent of North Carolina public school ninth-graders did not graduate (receive diplomas or certificates of attendance) from a North Carolina public high school within the next five years.

Both the 1983 and 1988 studies are "historical perspective" studies and similar in design. In the 1988 study, a random sample of 2,011 N.C. public high school students was drawn from all ninth graders who had taken the California Achievement Test (CAT) as part of the N.C. Annual Testing Program in spring 1983. The academic careers of these students were then traced from the 1982-83 school year through the 1986-87 school year (one year after their nominal graduation date to insure the inclusion of any of the students who may have needed five years to complete high school).

In addition to collecting student record information and CAT data, researchers conducted telephone interviews with any student in the sample whose records indicated neither graduation from a N.C. public high school nor transfer to a private or out-of-state school. In order to provide a comparison of graduates and dropouts on such variables as pre-school attendance and employment history, telephone interviews were also conducted with an equal number of randomly-selected graduates in the sample.

Students in the 1988 sample were classified as known graduates, known dropouts, and indeterminates (students whose records indicated leaving school and whom researchers were unable to contact). Because 8.7 percent of the students initially identified by available school records as dropouts were found to be graduates in later telephone interviews, it was estimated that 8.7 percent of the indeterminate group were also graduates. Thus, for the random sample of 2,011 students, the percentage of known graduates was 75.1 percent and the percentage of estimated graduates was 77 percent. On the basis of these data, it is estimated that 75 to 77 percent of the students enrolled in the ninth grade at the spring 1983 CAT administration graduated from a N.C. public high

school within four years. Therefore, it is estimated that approximately 23 to 25 percent of these students dropped out of high school before graduation. (However, an overall drop-out rate for students of this age was likely higher because some students would have dropped out of school before spring of the ninth-grade school year.) On the basis of the sample data, the estimated graduation rates by N.C. educational region for students who have reached spring of the ninth-grade school year are shown in Table 1.

Table 1
Estimated Graduation Rate by Region
(for students who have already reached spring of the 9th-grade school year)

1. Northeast	79.3%
2. Southeast	75.0%
3. Central	76.6%
4. South Central	75.2%
5. North Central	78.8%
6. Southwest	79.0%
7. Northwest	73.9%
8. Western	76.0%

The On-Going North Carolina At Risk Study

Similar in design to the N.C. Dropout Studies, the on-going At Risk Study (1987-1991) is being conducted to explore factors that put a student at risk of dropping out of high school. However, it is a prospective, longitudinal study in which the academic careers of a random sample of 2,021 N.C. public school students who took the CAT as eighth-graders in the spring of 1986 are being followed to the end of the 1991 school year. This is also the first group of students for whom achievement data for the early school years (grades 1,2,3, and 6) are available for study. Because these students are still of school age (75 percent of the enrolled students were in the eleventh grade during the 1988-89 school year), an estimate of the high school dropout rate in North Carolina for this age group cannot be derived until one year after their nominal graduation year. Three years have now passed since their eighth-grade year, and 15.4 percent of the students in the sample had dropped out by January of the third year. There are no school records available for another 4 percent of the students who transferred to private or out-of-state schools, withdrew for medical reasons, or entered the armed forces, correctional institutions, or federal programs such as Job Corps.

Encouragingly, 9 percent of the total number of dropouts so far (1.4 percent of the sample) have returned to school. As a result of this, an additional focus of the on-going At Risk Study has now become the examination of any differences in factors leading to the dropout of students who returned compared to the dropouts who do not return and of factors possibly contributing to the eventual return of students to high school. During summer 1989, three groups of students were interviewed by telephone: students who had dropped out and not returned to school, students who dropped out and then returned to school, and students who left school to enroll in a community college for the completion of high school requirements. About 30 percent of the dropouts, 30 percent of the community

college students, and 42 percent of the returning dropouts could be located. A few returning students have dropped out again. More interviews will be conducted at the end of the 1990 and 1991 school years. The first two phases of the study were conducted by the UNC-CH Thurston Psychometric Laboratory under contract to the Department of Public Instruction (DPI). Remaining phases are being conducted solely by DPI.

Information Center's Estimates

Almost 12 years ago, DPI's Information Center developed a technique/formula for estimating dropout rates using the mandatory nine-month pupil accounting information (enrollment, membership, attendance, transfers, and withdrawals by grade level by school). Without an individual follow-up of each student leaving school before graduation, a standard method for estimating dropout rates was needed. The intent was to provide accurate and timely information to school districts so that steps could be taken to explore trends, reduce the dropout rate, and provide services to dropouts.

Before the use of the estimating technique, only school retention rates were available. Retention rates were derived by subtracting the number of graduates from the number of students who were enrolled when the graduating class entered school or, for a single grade or school year, by subtracting the number of students remaining at the end of the nine-month school year from the number of students who were enrolled at the beginning of the school year. A weakness of the retention rate was that it was based on the assumption that a grade level, school, or district had a "closed" population. Thus, there was no scrutiny or consideration of such factors as migration (new families moving into the area, etc.), deaths, and transfers between public and private schools.

The high school dropout estimating technique/formula developed by the Information Center and refined over the years does allow for consideration of transfers, migration, deaths, non-promotions, summer-months dropouts, and seniors who graduate at the end of summer school. On this basis, the estimated annual dropout rate for North Carolina high schools over a ten-year period from the 1977-78 school year to the 1987-88 school year declined from 8 percent to 6.7 percent. These are estimated rates for a single school year in grades 9-12.

Two years ago, DPI's Dropout Prevention Section developed a new dropout accounting system. For comparison purposes, the Information Center plans to continue the annual calculation of estimated high school dropout rates until the new DPI dropout accounting system has been in operation for several years. Both the state and local estimated annual dropout rates are published each year in DPI's Statistical Profile.

1987-88 State-Collected Information

As noted above, one of the reasons for developing techniques to estimate dropout rates has been the lack of follow-up with individual students when they leave school. The

recent state funding of dropout prevention coordinators for local school districts, however, means that there are now individuals who are directly responsible for providing both improved prevention services and follow-up attempts and services when students do leave school. With these new positions and services, it becomes possible to improve student accounting procedures. As a result, DPI's Dropout Prevention Section developed a comprehensive dropout accounting system and, on a trial basis, began collecting statewide information through the new accounting system. All except five school systems (135 of 140 districts) recorded dropout information during the 1987-88 school year. For the first time, school districts counted all students who left school at whatever grade level, provided relevant student record information for each dropout, and followed students for a calendar year rather than the nine-month school year (i.e., from the beginning of one school year through the beginning of the next school year). Whenever possible, exit interviews were conducted with the students to determine reason(s) for leaving, etc. The information collected shows that about 18,000 students dropped out of high school in 1987-88. Including the lower grade levels, the total number of dropouts reported was 21,478.

Legislative Commission Study

The three-volume Study of School Dropout Factors in the Secondary Schools of North Carolina was prepared for the Joint Legislative Commission on Governmental Operations of the North Carolina General Assembly by Research and Evaluation Associates, Inc. of Chapel Hill in 1988. The second volume reports a comparison of (a) four high schools having dropout rates among the highest in the state with (b) four high schools having dropout rates among the lowest in the state. Each of the four high-dropout-rate schools was matched with a low-dropout-rate school on student characteristics (ethnicity, gender, and participation in the reduced and free lunch program) and school characteristics (size/membership and grade levels served). Two-person teams conducted visits to the eight schools and interviewed superintendents, assistant superintendents for instruction, district dropout prevention coordinators, principals, assistant principals, department chair-persons, teachers, in-school suspension and alternative program coordinators, counselors, and student groups. At each school, eleventh-grade students in three English classes (advanced, regular, and remedial) responded to a questionnaire regarding work experiences, opinions of dropout factors, means of keeping students in school, and other relevant information. In addition, telephone interviews were conducted with students who had recently dropped out and with their parents.

Before the eight schools could be selected for study, it was necessary to determine or approximate the dropout rates of the public high schools in North Carolina. In response to requests for information, 110 of the 140 school districts provided researchers with end-of-school-term membership and total number of withdrawals-as-dropouts during the same school term for all senior high schools in the district. From the data, a ***W2 rate*** (rate of withdrawal-as-dropouts during the school term) was derived. The W2 rate did not include students who dropped out of school during the summer months and, therefore, was lower than a twelve-month dropout rate. Of the 267 senior high schools for which

information had been provided, the W2 rate ranged from the highest level of 15.8 percent to the lowest level of 0.4 percent. The W2 rates for the high schools in the remaining 30 school districts are unknown.

U.S. Department of Education "Wall Chart"

For national dropout rates, the primary data sources are the Bureau of the Census (Current Population Survey) and the U.S. Department of Education (Common Core of Data Survey). Reported rates are estimates of dropouts and the methods of collecting data and computing these estimates differ, making comparisons difficult.

The Bureau of the Census conducts a monthly Current Population Survey (CPS) of approximately 60,000 households, excluding military-base families and inmates in institutions. Each October, the survey instrument includes questions regarding school enrollment status. Estimated dropout rates, which may differ from complete census counts every ten year, are derived from the CPS data and reported in Current Population Reports. Series P-20. In turn, the CPS data is used as a basis for dropout statistics reported by the U.S. Department of Labor in News and Monthly Labor Review and by the U.S. Department of Education in Digest of Education Statistics.

In addition to data from the CPS, the National Center for Educational Statistics (in the U.S. Department of Education) uses the Common Core of Data Survey which is sent to all state education agencies each year. DPI's Information Center completes the survey instrument for North Carolina. Results of the surveys are published in Digest of Education Statistics and are used in the development of the "Secretary's Wall Chart," an annual comparison of state education statistics. Among other information, an *adjusted graduation rate*, calculated by subtracting the number of graduates from the number of students who enrolled in the ninth grade four years earlier with adjustments for interstate migration and any students not classified by grade, is reported for each state. The 1987 adjusted graduation rate reported for North Carolina was estimated to be 67.8 percent, down from 70 percent in 1986.

Research In Progress

Because there is no standard definition of a school dropout and no standard methods of calculating dropout rates across school districts and states, the Council of Chief State School Officers established a task force which, in cooperation with the National Center for Educational Statistics (NCES), has spent three years studying the issues and searching for means of developing a standardized national dropout rate. Incorporating the task force recommendations, NCES is beginning in fall 1989 a field test of dropout data collection and reporting procedures in more than 30 states. North Carolina's DPI is one of the participating state education agencies. If field testing is successful, standard collection and reporting procedures could be implemented in all states within five years.

Another research effort underway is the NCES National Education Longitudinal Survey of 1988, beginning with eighth-grade students. This effort is similar in design to the N.C. At Risk Study in that the academic progress of a single group of students will be followed from grade 8 to beyond the nominal graduation date four years later. Results of this study will also be used in the development of a standard national dropout rate.

WHICH STUDENTS APPEAR TO BE MOST AT RISK?
Demographic Groups

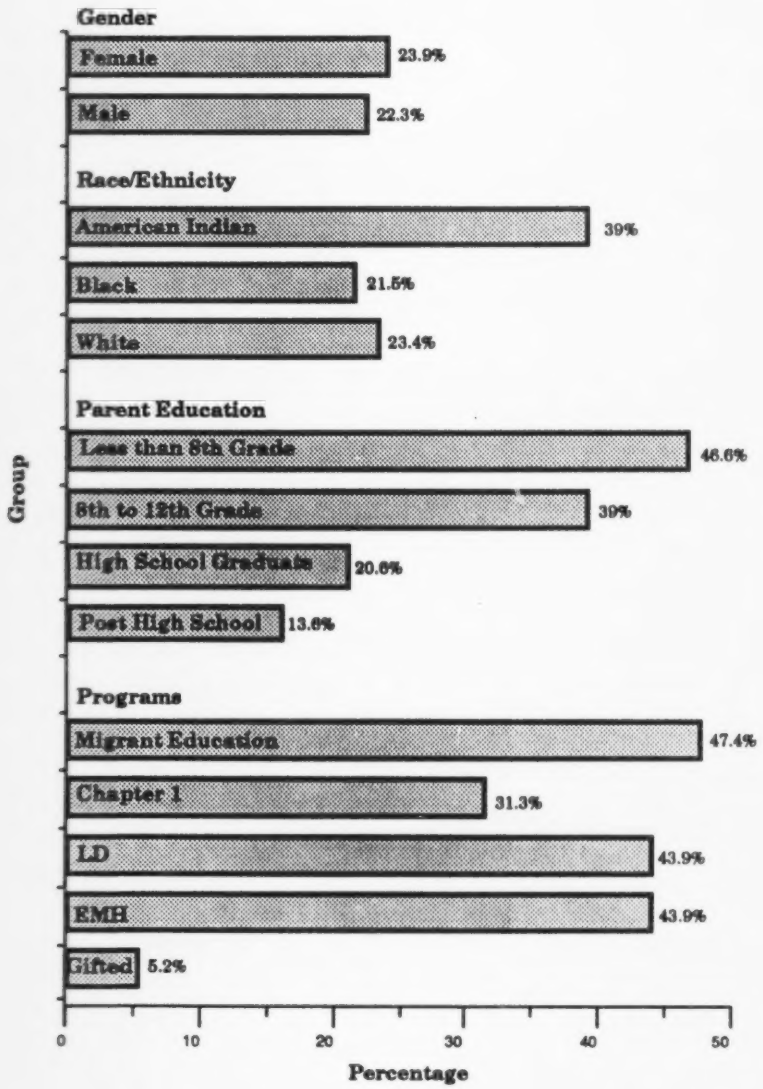
With 21,488 dropouts in grades K-12 reported in the 1988 state-collected data and with an estimated dropout rate of 23-25 percent for a group of students whose academic careers were followed from grade 9 to four years later, it is important to examine specific subgroups to determine whether any groups of students appear to be at particular risk for dropping out of school before graduation. Both the state-collected information and the second-year data collected from the At Risk Study indicate that about 68 percent of the dropouts are white, 26-28 percent black, and 2-4 percent American Indian. About 58 percent are male and 42 percent are female. Unlike the national profile, there is little difference in estimated probability of dropout for males and females and for blacks and whites.

What are the probabilites (or estimated percentages) of dropping out for members of a particular group? As shown in Figure 1, those students who appear to be most at risk of dropping out of N.C. public high schools are American Indian students, students in migrant education and Chapter 1 programs, students classified as EMH (Educable Mentally Handicapped) and LD (Learning Disabled), and students whose parents are non-graduates.

Because information regarding estimated income ranges was collected when the 1979 CAT was administered to N.C. ninth graders, parental income estimates were available in the 1983 study. Based upon 1979 parent income figures estimated by students' ninth-grade teachers, the estimated dropout rates derived from the 1979-1983 student sample were as follows: 37.6 percent for parent income less that $5,000, 27.1 percent for income of $5,000-$15,000, and 13.8 percent for income of more than $15,000. These income levels, of course, must be adjusted for inflation since 1979 and should be viewed with caution since they are teacher estimates. What is significant is the extent of the trend: the number of dropouts with parents identified as being in the lowest income range (less than $5,000) is more than two and one-half times greater than that of students with parents identified as being in the "upper" income range (greater than $15,000) in 1979.

Figure 1

Estimated Probability* of Dropout for Various Demographic Subgroups (Derived from 1988 Follow-Up Dropout Study Sample)



* For example, it is estimated that 23.9 percent of all female students in grade 9 will drop out within four years.

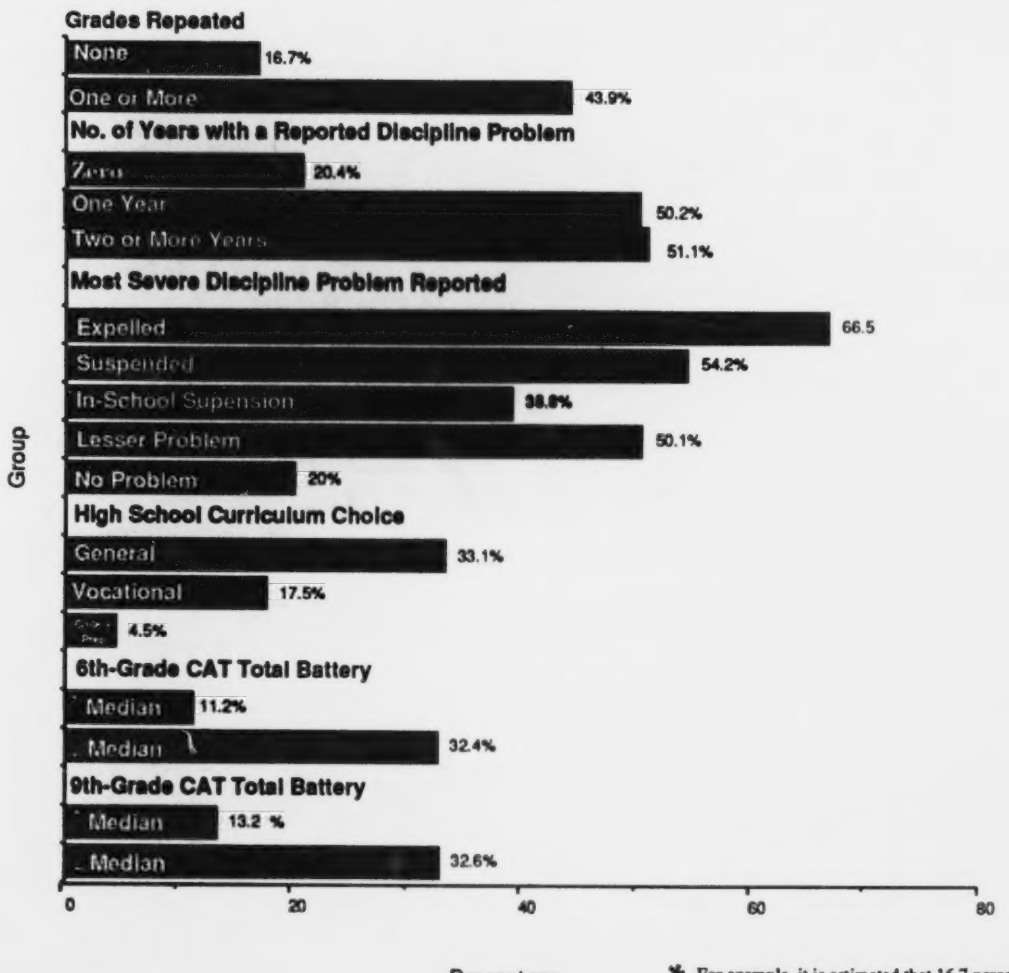
School Behavior and Performance Differences

Repeated Grades

The 1988 Follow-Up Dropout Study data also reveal some differences among graduates and dropouts in school behavior and performance as shown in Figure 2. For example, students who repeat one or more grades are more than twice as likely to drop out of school than are students not repeating grades. These retention statistics are consistent with the state-collected data in which 70 percent of all reported dropouts in grades K-12 for the 1987-88 school year had repeated at least one grade.

Figure 2

*****
Estimated Probability of Dropout for Some Behavioral Subgroups in Grades 9-12



* For example, it is estimated that 16.7 percent of all 9th-grade students with no grades repeated will drop out within 4 years.

The data collected from student records in the At Risk Study indicate that the most frequently repeated grades for both continuing students and dropouts are grades 1 and 9 and that the pattern of repeated grades varies between the continuing students and the dropouts. Continuing students who had repeated grades tended to have repeated the early grades (grades 1-3) and grade 9; few had repeated grades 4-8.

Although data are incomplete for 22 percent of the dropouts, available data suggest that the dropout group had a higher percentage of students repeating at every grade level from kindergarten to grade 9. Among the dropout group, the most frequently repeated grades were the early grades (grades 1-4) and grades 7-9, with the largest number (about one-fourth) repeating grade 9. Supporting this, transcripts of the 61 high school dropouts interviewed in the legislative commission study revealed that 41 percent of those recent dropouts had repeated either the ninth or the tenth grade, with 19 percent of them repeating either the ninth grade twice or both the ninth and tenth grades. Of course, students repeat only the course(s) failed at grades 9 and 10.

What specific age patterns are shown at the high school level? Table 2 presents some 1989 results of the At Risk Study in which students' records have been followed since the eighth-grade year in 1986. There is a clear pattern of older students dropping out at a lower grade level, with the average age of first-year (nominal ninth-grade) dropouts being 17 years and 7 months compared to the average age of third-year dropouts being a lower age of 16 years and 10 months. As a group, the first-year dropouts and second-year dropouts were older than the third-year dropouts. There are also indications that the average age of dropouts who return to school is younger than that of the first- and second-year dropout groups who do not return. In other words, students who did not leave high school until the third year and dropouts who chose to return to school were younger and less likely to have repeated grades.

Table 2
Average Age of Dropouts
for the First, Second, & Third Years after Grade 8

Group	Age
Year 1 Dropouts	17 yrs. 7 mos.
Year 2 Dropouts	17 yrs. 2 mos.
Year 3 Dropouts	16 yrs. 10 mos.
Returning Dropouts	16 yrs. 11 mos.

Data from the 1989 phase of the At Risk Study.

Discipline Problems

As with the students who repeated grades, students with reported discipline problems are twice as likely to drop out than students with no reported problems. The severity of the discipline problem increases the likelihood of dropping out. Based on the 1988 study data, it is estimated that two-thirds of the public high school students who are expelled or given long-term suspension and more than one-half of those who experience short-term (less than 10 days) out-of-school suspension will not return to school. The first-time state-collected data for students in grades K-12 confirm the estimates of high dropout rates associated with discipline problems; there were 14,238 cases of in-school suspension and 8,863 cases of out-of-school suspension among the 21,488 students who dropped out of N.C. public schools during the 1987-88 school year. (The state-collected data may contain duplicative counts for a single student).

Absences and Carnegie Units

According to the state-collected data, dropouts were absent from school an average of 20 days during the 1987-88 school year. Numbers from the 1983 and 1988 studies and the At Risk Study are similar. Each school year the dropouts exhibit more days absent, more units failed, and fewer units passed than graduates, and the differences between the two groups increase with each year in high school. However, the number of reported days absent may be somewhat misleading, for in some instances it includes days missed after the student left school permanently.

Curriculum

The type of curriculum selected by a high school student is another indicator of the probability of dropping out, with students in the general curriculum at higher risk of dropping out. Based on the 1988 study data, it is estimated that approximately one-third of North Carolina public high school students selecting the general curriculum, rather than the vocational and college preparatory curricula, will drop out. Supporting this estimate, the 1987-88 state-collected data for grades K-12 show that more than 70 percent of the dropouts in that school year had been enrolled in the general education curriculum. In the more recent interviews of high school dropouts in the At Risk Study, about 53 percent had been enrolled in the general curriculum and 38 percent had been enrolled in a vocational program. However, there appears to be some confusion among students regarding their curricular selections. Many reported having selected the general curriculum and then, upon questioning, listed their courses in the vocational curriculum. This is another area to be monitored closely for the duration of the At Risk Study. It should be noted that the North Carolina curricular data from four DPI studies are contrary to data reported in the High School and Beyond Study of 1983 by the U.S. Department of Education. In the national study, the vocational track was the curriculum in which the highest proportion of U.S. teen dropouts had been enrolled.

Achievement Test Performance

Based on the 1988 study data, some earlier possible predictors of non-graduation are scores below the statewide median (middle) on the sixth- and ninth-grade California Achievement Tests (CAT) total battery. The scores of students who graduated are more evenly distributed around the median, while the dropout group has a larger percentage of students scoring below the median. In the 1988 sample, 81 percent of the dropouts scored below the state median at the sixth grade, and 84 percent scored below the median at the ninth grade. The estimated probability of dropout for the students in grades 9-12 who scored below the state median at the ninth grade is 33 percent.

Similar achievement patterns are evidenced in the 1987-88 dropout data. The state-collected data indicate that for all students in grades K-12 who left school during the 1987-88 school year, 34 percent had scores below the 25th percentile on standardized tests, 36 percent had scores between the 25th and 49th percentile, and 30 percent had scores at or above the 50th percentile.

A comparison of academic achievement measures in the earlier grades is now possible using data being collected in the At Risk Study. Students in this sample are the

Table 3

Average CAT National Percentiles for Dropouts and Continuing Students

Variable	Students	
	Continuing Students	**Dropouts**
CAT Reading		
Grade 1	64	49
Grade 2	61	48
Grade 3	57	41
Grade 6	58	40
Grade 8	53	33
CAT Mathematics		
Grade 1	76	66
Grade 2	70	59
Grade 3	62	46
Grade 6	64	47
Grade 8	56	35
CAT Language		
Grade 3	63	48
Grade 6	67	48
Grade 8	56	37

From At Risk Study, Phase 2, 1989.

first N.C. public high school students for whom CAT scores for grades 1,2,3 and 6 are available for comparison. (However, it should be noted that the CAT scores used for grades 1,2,3, and 6 are Form C scores, while the grade 8 scores are from Form E on which there was a statewide "decline" for the first year of use.) The mean (average) CAT national percentiles for the group of continuing students, most of whom were in the eleventh grade during the 1988-89 school year, and for the students who have left school since the eighth grade are shown in Table 3. At all five grade levels, the average national percentile was lower for the dropout group than for the group of continuing students. The difference between achievement test performance of the two groups is present as early as the first grade and increases as students move to the sixth grade.

Pre-School Attendance

Pre-school data from telephone interviews of the 1988 study are shown in Table 4. Eighty-one percent of the graduates reported attending some type of schooling before first grade, while only 60 percent of the dropouts reported attending any type of schooling prior to first grade. In other words, 40 percent of the dropouts had no schooling before first grade. In both groups, most of the individuals who participated in some type of pre-schooling attended a public school kindergarten.

Table 4

PRE-SCHOOL ATTENDANCE

Dropouts		Graduates	
59.7% Attended		**81% Attended**	
Types Attended:		Types Attended:	
Public Kindergarten	29.1%	Public Kindergarten	50.8%
Private Kindergarten	12.9%	Private Kindergarten	17.5%
Head Start	11.3%	Head Start	3.1%
Church-Sponsored Day Care	4.8%	Church-Sponsored Day Care	4.8%
Private Day Care	1.6%	Private Day Care	4.8%

Data from 1988 Study
Telephone Interviews

Of those who attended pre-schooling, more dropouts (11.3 percent) than graduates (3.1 percent) attended Head Start, an educational program aimed at disadvantaged children. The larger percentage of Head Start attendees among the dropout group, however, is not surprising since (1) the dropout group is shown to be disadvantaged in terms of parent education levels (one indicator of economic level) and enrollment in remedial and compensatory programs and (2) only pilot public kindergartens were available in North Carolina when these students were kindergarten age.

Data from the summer 1989 interviews in the At Risk Study indicate that for this more recent group of dropouts as well, only 60 percent of them attended some type of schooling before the first grade. However, the number of dropouts who attended public kindergarten increased to almost 40 percent (compared to 29.1 percent in the earlier dropout group) while the proportion of dropouts who attended Head Start decreased to 6 percent. This apparent decline in the percentage of Head Start attendees among the dropout group is also reflected in a higher proportion (25 percent) of Head Start attendees among the dropouts who have returned to high school and remained there.

When interpreting the pre-school attendance figures, it should be noted that students (with no repeated grades) in the 1988 study would have been in kindergarten in 1974 when public school kindergartens were being piloted and, therefore, not available to all N.C. kindergarten-age children. Students (with no repeated grades) in the on-going At Risk Study would have been in kindergarten in 1977 when public kindergartens were available to all children. However, a large proportion of the dropouts repeated at least one grade and are older; thus, public kindergarten (available to all in 1976) may not have been available to some of them when they were kindergarten age. Clearly, more research is needed on the long-term impact of pre-school attendance and programs.

Extra-Curricular Activities

As for extra-curricular activities, there are marked differences in the participation rates reported by dropouts and graduates in the 1988 study. Only 58.1 percent of the dropouts had participated in high school sports or clubs, while 87.3 percent of the graduates reported having participated in one or more school activities. In both groups, slightly more had participated in clubs than in sports.

In the At Risk Study, dropouts are being asked about both school and non-school clubs and sports. About two-thirds of the dropouts interviewed reported that they had participated in either school or non-school sports or clubs, and they reported having participated in more school activities than non-school clubs or sports (community softball teams, etc.). They also reported participating in more sports than clubs. Of course, the participation rate in extra-curricular activities for all dropouts in the study (and for graduates) will not be known until 1991; this is another area for continuing study. Available information suggests that dropouts who returned to high school had a slightly higher participation rate in extra-curricular activities than dropouts who have not returned.

Employment While In School: Possible Choice of Work Over School

Data on students holding part-time jobs while in school is interesting in that a far greater number of graduates than dropouts report having held regular part-time jobs. In the 1988 study, 68.3 percent of the graduates reported having held a part-time job. In contrast, only 43.5 percent of the dropouts reported having held a regular job during their time in high school. The smaller percentage of dropouts who worked while in school suggests that financial need may not be the major reason for leaving school for many dropouts.

A higher percentage (11.6 percent) of students who dropped out between 1979 and 1983 reported financial problems as a reason for leaving school. Only 2 percent of the high school dropouts interviewed by telephone in 1988, five years after their ninth-grade year, gave financial problems as a reason for leaving school, and none reported making a choice of work over school as a reason for leaving. Similarly, in the state-collected data for all dropouts in grades K-12 during the 1987-88 school year, only 1.7 percent of the dropouts reported that employment was necessary. At the same time, however, another 12.8 percent of them reported that the choice of work over school was the reason for dropping out. Thus, most of the more recent dropouts appear to be choosing work for reasons other than, or in addition to, financial need. Unlike reasons reported by dropouts of 1979 and the early 1980s, financial need may be a contributing factor but not the primary reason for most students leaving school today. (See Table 5.)

Students who stay in school have reported that financial need is not the major reason for working while in school. In the legislative commission study, over half of the students surveyed in 24 English classes reported working outside of school, yet only 5 percent of them reported family need as a reason for working and only 14 percent of them reported that they were saving for college.

Results of the legislative commission study suggest that there may be differences between the part-time employment experiences of dropouts and the work experiences of continuing students. Dropouts from the eight high schools under study were more likely than continuing students to have been working long hours. Of those who worked, almost 8 percent worked 40 or more hours per week; 67 percent worked 20 or more hours per week during the school term. Futhermore, half of the dropouts who had held jobs while in school indicated that the job had interfered with school.

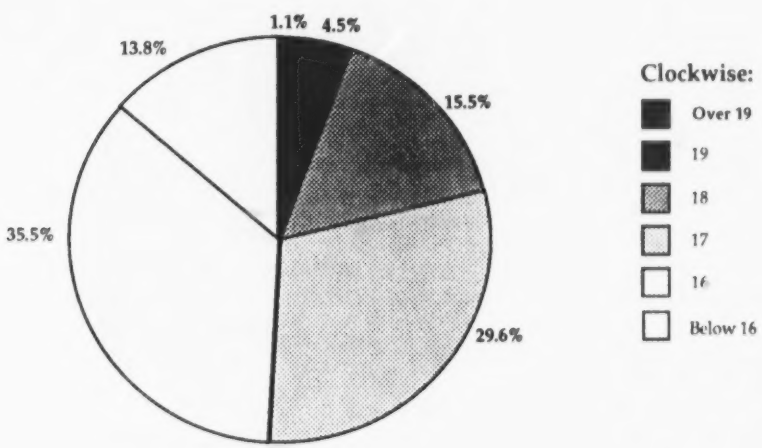
Similarly, data from the more recent At Risk Study telephone interviews with recent dropouts show that less than half worked but that about half of the those with regular part-time jobs worked more than 20 hours per week, with 17 percent of them working more than 30 hours per week. However, fewer of these interviewees reported job interference with school; almost 70 percent of the dropouts who had been employed while in school reported that they had had time for school work. The most common types of positions in which all dropouts had been employed while in school were restaurant and fast food positions (about 50 percent), farm workers (16 percent), sales clerks (10 percent), day care workers, and grocery store clerks.

What are the work experiences of dropouts who returned to school? Information from the 1989 interviews shows that, so far, a third of the dropouts who returned to school and remained there held regular part-time jobs, but the majority (67 percent) of them worked less than 20 hours per week. Even so, only half of them reported that they had time for school work. In contrast, 25 percent of the dropouts who returned to school and then dropped out again worked while in school, and all reported working more than 30 hours per week. As in the legislative commission study, half reported that the job interfered with school work.

WHEN DO STUDENTS LEAVE SCHOOL?

Early estimates from DPI's Information Center were that 85 percent of all dropouts occurred during grades 9-12. In the 1988 study in which the academic progress of a group of ninth-grade students was followed for a four-year period, 17 percent of the dropouts left school in grade 9, 29 percent in grade 10, 33 percent in grade 11, and 21 percent in grade 12. As for a single school year, in the state-collected data for the 1987-88 school year, about 10 percent of the dropouts were in grade 12, 21 percent were in grade 11, 55 percent were in grades 9 or 10, and 3 percent were below grade 7. Although state law requires students to stay in school until age 16, almost 14 percent of the students who left school were below 16. More that 65 percent of the dropouts were age 16 or 17. The percentages of students leaving school at various age levels during a single school year are shown in Figure 3.

Figure 3
Dropouts By Age
1987-88 State-Collected Data for Grades K-12



In the legislative commission study where high-dropout-rate high schools were compared with low-dropout-rate high schools, a higher percentage of students in the high dropout schools left school when they turned 16; in the high dropout schools, 54 percent of the students who left school were 16 or younger compared to 24 percent at the low dropout schools. Thus, low dropout schools were characterized not only by fewer students leaving school but also by students staying in school for a lengthier time before dropping out.

Do students leave during the school term or during the summer? Among all dropouts in grades K-12 in the 1987-88 school year for which there is state-collected data, 86 percent quit during the school term; 14 percent left during the summer. For high school students, data over a five-year period from the 1988 study indicate that the time of year for leaving school for ninth graders was generally during the summer before the 10th grade, while eleventh- and twelfth-grade students most often left during the school term. An equal number of tenth-grade students dropped out during the school term and during the following summer months.

WHAT ELSE HAVE WE LEARNED ABOUT THESE STUDENTS?

Student-Reported Reasons for Leaving School

The dropouts themselves provide insights into their reasoning. In the telephone interviews of the 1983 and 1988 studies, dropouts were asked why they had left school. About 68 percent of the dropouts in the 1983 sample and 63 percent in the 1988 sample reported that they left high school for school-related reasons (discipline problems, academic performance, general dislike for school, etc.) as opposed to factors external to school (economic, health, or personal reasons). In the 1987-88 state-collected data for students in grades K-12, school-related reasons for leaving school were reported by only 47.1 percent of the dropouts; however, reasons for leaving school are unknown for another 17.6 percent of the dropouts. Possibly more middle and junior high school students than high school students leave school for non-school reasons.

Table 5
Reasons For Leaving School

Data from Telephone Interviews 5 Years after the 9th Grade			State-Collected Data for all Dropouts in Grades K-12 during 1987-88	
1983	1988			
29.5%	22.6%	No Interest/Disliked School	24.8%	Attendance
21.4%	14.5%	Academic Performance	12.8%	Choice of Work Over School
17.0%*	17.7%	Conflict with School Administrators or Teachers	9.9%	Academic Performance
			6.8%	Unstable Home Environment
11.6%	1.6%	Financial Problems	5.6%	Discipline Problem
8.9%	9.7%	Marriage	4.4%	School Not Meeting Needs
5.4%	1.6%	Family Problem		
3.6%	17.7%	Pregnancy	3.5%	Pregnancy
–	3.2%	Peer Problems/Pressure	2.4%	Expulsion
–*	4.8%	Disciplinary Action by School	2.3%	Marriage
			1.7%	Employment Necessary
2.7%	1.6%	Health Problem	1.6%	Child Care
–	1.6%	Child Care	1.4%	Health
–	3.2%	Other	4.4%	Other
			17.6%	Unknown

* No distinction between conflict and expulsion/suspension was made in 1983 as in 1988.

A listing of reasons from the 1983 and 1988 studies and the 1987-88 state-collected data is given in Table 5. Some possible explanations for the differences in reported reasons for leaving are (a) that the 1983 and 1988 groups are composed of a sample of dropouts four years after their ninth-grade school year while the 1987-88 group is composed of all dropouts in grades K-12 during a single year and (b) that members of the first two groups responded to an open-ended question in a telephone interview while some members of the

1987-88 group may not have been available for an exit interview when leaving school, resulting in a school official determining reason for leaving.

Perhaps some additional information regarding reasons for leaving school can be derived from telephone interviewees' suggestions for improving school. In the 1988 study, both dropouts and graduates were asked for any comments they wished to make about school. Those comments are summarized in Table 6. They suggest what could have been done to improve their school experiences.

Table 6
1988 Telephone Interviewees' Comments on Ways to Improve Public Education

Dropouts		Graduates
23.1%	Make Administrative Changes (teachers & administrators)	16.7%
20.5%	Offer Different Programs	39.9%
15.4%	Advise Others Not to Drop Out (self-reflection)	——
15.4%	No Changes Needed (withdrew for non-school reasons)	——
12.8%	Make Policy Changes (attendance, discipline, etc.)	16.7%
12.8%	Make School Interesting	——
——	Make Overall Changes to System	16.7%
——	Make Facility Changes	11.1%

While the changes suggested by graduates were chiefly in the instructional programs area, the largest number of suggestions by the dropout group were administrative (teacher and administrator) changes and program changes. Interestingly, 15 percent of the dropouts who responded said no changes were needed. Possibly these students and those who suggested advising others not to dropout would respond quickly to back-to-school efforts/programs tailored to meet their needs. It is noteworthy that a higher percentage of graduates than dropouts sugggested policy changes when it is the dropouts who, as a group, have more reported discipline problems, poorer attendance rates, etc. than the graduates. Only members of the dropout group suggested "make school interesting."

Of the 61 dropouts interviewed for the legislative commission study, 88 percent of the dropouts from the high-dropout schools and 77 percent from the low dropout schools indicated that leaving school was a mistake. Futhermore, 75 percent of them reported that

they had not discussed the dropout decision with any school personnel prior to leaving. These data are further evidence that some dropouts "fade away" from school and may be open or responsive to timely discussion and educational alternatives/interventions.

Only general information about either peer pressures or peer problems is available, yet 3.2 percent of the interviewees in the 1988 study cited either peer problems or peer pressures as the reason for leaving school. Another 3.3 percent of the interviewees gave peer problems or pressures as a secondary rather than primary reason for leaving school. For this reason, students are now being asked whether one or more close friends have also left school and whether there were problems with peers in school. More than 80 percent of the dropouts interviewed in 1989 reported that at least one friend had left school, and one-third of the dropouts reported that five or more friends had left school.

A larger pecentage of the sample of high school dropouts between 1983 and 1988 reported having left school for marriage or pregnancy reasons than did dropouts in the earlier study and in the newly-collected state data for grades K-12. More specifically, 29 percent of the students in the 1983-88 high school dropout sample, compared to only 7.4 percent of the dropouts in grades K-12 during 1987-88 and 14.1 percent of the dropouts in the earlier 1979-83 sample, gave marriage or pregnancy or child care as reasons for leaving school. Because of these differences, further study in this area is needed. With the continuation of the At Risk Study and the annual state collection of K-12 dropout data, any trends in this area can be more closely monitored. Three years have passed since students in the At Risk Study sample were in the eighth grade and, so far, about 15 percent of the dropouts interviewed (22 percent of the females interviewed) have reported marriage, pregnancy or child care as a reason for leaving school. Another source of information on this issue is a report released in May 1989 by the Southern Regional Project on Infant Mortality which shows that the 17 southern states have the highest rates of adolescent pregnancy and childbearing. While only 37 percent of all females under 17 live in the South, 47 pecent of U.S. births to females under 17 occurred in the southern states.

None of the dropouts interviewed by telephone in the 1983 and 1988 Dropout Studies and the At Risk Study offered drug and alcohol use as a reason for leaving school, and it is unlikely that interviewees with no anominity would respond to questions regarding substance use. Although dropouts themselves have not reported substance use as a contributing factor in the decision to leave school, students in the 24 high school classrooms surveyed in the legislative commission study indicated alcohol and drug use as one of the "strongest reasons" for some students leaving school. In addition, when students were asked to list possible reasons for others' leaving school, 15 percent of the reasons listed for males and 9 percent of the reasons listed for females were related to substance use. (Note: These are the perceptions of continuing students.)

In an exploration of the relationship between students' substance use and their risk of dropping out, DPI's Alcohol and Drug Defense Program conducted a statewide survey in 1987 of a random sample of 10,000 students in grades 7-11. Students were asked, among other things, about their lifetime and current (30-day) use of substances, their

grades (mostly As to mostly Ds), and their perception of school climate. School climate was measured by whether students knew each other, helped each other, cared about the school, considered school a friendly place, and were involved in school extra-curricular activities. Although the findings are only correlational and the relationships observed may be caused by some other factor(s), there was a strong negative relationship between average grades and both life and current substance use. In other words, substance use and increases in substance use were associated with lower average grades and vice versa. Similarly, unfavorable or descending perceptions of school climate were strongly associated with increasing degrees of substance use.

Family Reactions to Leaving School

Of the dropout group interviewed by telephone in 1988, approximately 54 percent reported that other family members had dropped out of school. About 25 percent had a brother or sister who had dropped out, 22 percent had at least one parent who had dropped out, and another 7 percent had at least one parent and one brother or sister who had dropped out of school.

Thirty-six percent of the dropouts reported that no family member had objected to their leaving high school. Although 64 percent of the interviewees reported that someone in the family had objected to the student's leaving school, there appears to be no relationship between objections having been raised and other family members having left school earlier. Of those who reported that there were no family objections to their dropping out, 45 percent were the first in the family to drop out. Of those who did report family objections, 46 percent were the first family member to drop out.

In the legislative commission study of eight high schools, 76 parents of dropouts were interviewed. Contrary to the perceptions of some school officials interviewed earlier, the parents wished to be helpful in the dropout prevention effort and expressed concern about their children's leaving school. Many of the parents had received no forewarning of students' course failures or excessive absenteeism and, therefore, were surprised by report card information and/or students' withdrawal from school when non-promotion seemed inevitable.

Student Discussions With School Officials

Do students discuss the dropout decision with school officials? Seventy-five percent of the dropouts interviewed in the legislative commission study reported they had not discussed the dropout decision with school personnel prior to leaving. In the most recent DPI telephone interviews, only a third of the dropouts reported having discussed the dropout decision with any school personnel before leaving school. In contrast, although the number of students is small, 62 percent of the dropouts who later returned to school and all of the dropouts who left school to enter a high school diploma program in a

community college had discussed the decision with school officials. In fact, some students who left school to complete high school requirements at a community college perceived their decision as "transferring" rather than dropping out.

Differences Between Early and Later Dropouts

Do those students who leave high school at an earlier time differ from those who leave high school at a later time? Demographic information from the 1986 eighth-grade CAT records of students in the At Risk Study show that there are differences among first-, second-, and third-year high school dropout groups and, therefore, perhaps differences among these groups in reasons for leaving school. The dropout group who left school one year after the eighth grade had the highest average age (17 years and 7 months) and the highest percentage of male students, students whose parents were not high school graduates, and students enrolled in Chapter I remediation. As shown in Table 7, this group also had the lowest average eighth-grade CAT total battery score of all dropout groups.

Table 7
Average CAT National Percentiles for First- Second-and Third-Year High School Dropouts and Dropouts Returning to School

Variable	High School Dropouts			Returning
	1st Year	2nd Year	3rd Year	Students
CAT Reading				
Grade 1	49	44	58	53
Grade 2	43	47	55	53
Grade 3	37	39	50	45
Grade 6	36	38	49	45
Grade 8	27	32	41	41
CAT Mathematics				
Grade 1	63	67	69	65
Grade 2	55	58	63	54
Grade 3	41	44	56	52
Grade 6	43	45	55	48
Grade 8	30	35	45	37
CAT Language				
Grade 3	46	44	56	47
Grade 6	47	45	53	56
Grade 8	31	36	46	41
CAT Total Battery				
Grade 3	39	41	54	48
Grade 6	40	42	52	48
Grade 8	28	33	43	41

From Phase 2, At Risk Study

The dropout group who left school two years after the eighth grade had the highest percentage of LD (Learning Disabled) students and, again, a higher proportion of males than later dropouts. This group also had an average eighth-grade CAT total battery score higher than the first-year dropout group but lower than the next year's dropout group.

Presenting a different profile, members of the dropout group who left school three years after the eighth grade had the highest percentage of American Indians, blacks, and academically-gifted students, as well as higher average eighth-grade CAT scores than the earlier dropout groups.

As noted previously, older students drop out at a lower grade level, and differences between dropouts and graduates in absences and units passed and failed increase with each year in high school. This year's data from the At Risk Study also show that there are differences in the number of repeated grades. With each year in high school, fewer students within the dropout group have repeated a grade. Only 18 percent of the first-year dropout group and 16 percent of the second-year group had repeated no grades, while about 36 percent of the third-year dropout group had repeated no grades. When looking at grade-level retention patterns among dropouts so far, it appears that first- and second-year high school dropouts are more likely than later dropouts to have repeated grades 2 and 3.

Dropouts Who Return to School

How do dropouts who returned to school differ from dropouts who have not returned to school? In the At Risk Study, 9 percent of the dropouts (1.4 percent of the sample) have returned to high school so far; a few have left school again. Of the returning students, 96 percent left school during the second year in high school. This suggests that students who dropped out earlier (in the eighth grade or one year later) are the least likely to return.

Compared to first-, second-, and third-year high school dropout groups, the returning dropout group had the highest percentage of parents with high school and/or post-secondary education, the highest percentage of LD students, and the highest percentage of students enrolled in one or more remediation or compensatory programs. The high enrollment in special programs is due, in part, by the fact that 17 percent of the returning students had enrolled in summer school and, according to school records, 12.5 percent of them were enrolled in an Extended Day program upon their return to school. However, data from the more recent telephone interviews indicate that a third of the dropouts who re-entered high school have now enrolled in an Extended Day program.

The returning dropout group was more similar to the third-year dropout group than to the first- and second-year dropout groups in the following areas: fewer days absent, higher percentage enrolled in college preparatory classes, higher average CAT scores, and higher average scores on the N.C. Competency Test.

What were their reasons for dropping out--and for returning? Although the number of returning dropouts interviewed in summer 1989 was small and the resulting information should be interpreted cautiously, trends are suggested. A third of the students who had dropped out and then *re-enrolled and remained* in school reported that family problems were the reasons for leaving school. Another third of these students reported either pregnancy or economic problems as the reason for leaving, and the final third reported either discipline problems or lack of interest in school. Thus, at least two -thirds of these returning dropouts' reasons for leaving school were related to factors external to school. Conversely, 83 percent of the primary reasons reported for returning to school and remaining there were related to improvements in such external factors as finances, family problems, and health.

Of the few students *who re-enrolled and then dropped out again*, about half reported family, health or economic problems as the reason for leaving school, and half reported improvements in family or economic problems as the primary reason for returning to school. For those students, recurrence of the problems led to dropping out again.

Some of the returning dropouts worked while in school. Half of the dropouts who returned to school and remained there held part-time jobs, but the majority (67 pecent) of them worked less than 20 hours per week. As noted in an earlier section, only 50 percent of them reported that they had time for school work while maintaining a part-time job. What were the work experiences of the employed-while-in-school dropouts who returned to school and then dropped out again? Although only 25 pecent of them held a regular part-time job while in school, all of those who worked reported having worked more than 30 hours per week.

Additional Education and Employment after Leaving School

In the 1988 telephone interviews, both dropouts and graduates were asked to supply information about their employment history and any additional education they had received. The encouraging news is that 53.2 percent of the dropout group who could be traced had received additional education. Twenty-four percent of the dropout group had completed or were enrolled in a GED (General Educational Development Test)/high school equivalency degree or an adult diploma program within four years of ninth-grade attendance, about 13 percent had completed one of these programs and entered college, and another 16 percent of the dropouts had either attended a technical or community college or received training in the armed forces. Half had planned to seek this additional education at the time they left public school; half decided to do so only after leaving school. Of the high school graduates, 77.8 percent had completed or were enrolled in a university, college or other educational program.

As shown in Table 8, seventy percent of the dropout group and 86.9 percent of the graduates were currently employed, meaning a higher unemployment rate for the dropouts. However, none of the dropouts had been continually unemployed since leaving

school, and the percentage of graduates employed may be misleading, for many of these individuals were also full-time college students. A more accurate assessment of any post-secondary employment differences between the two groups can be conducted only after more time has elapsed. In the on-going At Risk Study, more detailed information about the types of employment, number of jobs, etc. is being collected.

Table 8
Post-High School Education & Employment
Four Years After the Ninth Grade

	Dropouts	Graduates
Additional Education	**53.2% completed &/or enrolled** GED 24.2% GED & College 12.9% Comm. College 9.5% Technical College 4.8% Armed Forces 1.6%	**77.8% completed &/or enrolled** University 38.1% 4 yr. College 4.8% 2 yr.(jr.)College 12.7% Comm. College 11.1% Tech. College. 9.5% Other 1.6%
Employment Status	**70% Employed** Full Time 61.7% Part Time 8.3% **30% Unemployed** 1 1/2 Year 3.5% 1 Year 3.5% 6 Mos. 12.4% 3 Mos. 10.6%	**86.9% Employed** Full Time 54.1% Part Time 32.8% **13.1% Unemployed** 1 Year 4.4% 6 Mos. 4.4% 3 Mos. 4.4%
Financial Support	**64% Support Themselves**	**30.2% Support Themselves** (However, 3/4 of the students who do not support themselves are continuing their education.)

Data from the 1988 Dropout Study

Data collected from the 1989 interviews indicate that about 78 percent of the students who have dropped out of school since their 8th-grade year in 1985-86 were employed; 92 percent of those employed had full-time positions. Information from the interviews also shows that the dropouts, as a group, tend to change jobs frequently. Two-thirds of those employed at the time of the interview had had at least two jobs since leaving school, and 25 percent of them had had three or more jobs since leaving. The most common types of employment were in construction (20.5 percent), fast-food and regular restaurants (12.8 pecent), farming (10.3 pecent), and custodial/maintenance work (10.3 percent). The other types of positions they reported were: sales clerk, warehouse laborer, truck driver, factory worker, grocery store clerk/stocker, auto mechanic, commercial fisher, day care worker, health care technician, repair worker, and secretary/ data entry technician.

As for the dropouts who were unemployed, all reported having had at least one job since leaving high school, and 70 percent of them had worked in at least two jobs. Forty percent had held three or more jobs since leaving school, and 40 percent had been unemployed for at least three months. About 60 percent of them reported having worked full-time in their last job.

What is the financial status of teenage dropouts? As shown in Table 8, 64 percent of the dropout group and 30.2 percent of the graduate group interviewed in the 1988 study reported that they were supporting themselves five years after the ninth-grade school year. The low number of graduates supporting themselves is partially explained by the fact that three-fourths of them had been or were enrolled in some form of post-secondary education. More information regarding financial status was requested during the 1989 interviews with recent dropouts in the At Risk Study. Among the dropouts interviewed, 49.1 percent reported that they were financially independent and 46.2 percent reported that they were financially independent with family help, yet 84.2 percent of them lived in the family home and 66 percent reported that the family helped pay expenses when needed. Thus, the perception of financial independence or self-support held by many teenage dropouts was in conflict with the fact that most were living in the family home and receiving some form of financial assistance from the family.

All members of the dropout group were asked in the 1988 and 1989 telephone interviews if they were interested in receiving information on adult eduation programs available in their area, and their responses were positive. Almost 80 percent of the dropouts who had not received any more education since leaving school requested information. Of the dropouts who had received some additional education after leaving public school, more than half still requested the information. The N.C. Department of Community Colleges and the N.C. State Occupational Information Coordinating Committee donated materials for distribution to all those who requested information, and the materials were mailed by DPI's Research and Development Services.

DISCUSSION

This section of the report is devoted to a discussion of some of the implications of the results of recently completed and on-going research regarding students dropping out of North Carolina public schools. Also included is a discussion of a few suggested next steps to be taken as a result of the research findings and their implications.

DROPOUT RATES

What is the dropout rate in North Carolina . . . and in the U.S.? How does the rate in North Carolina differ from that of other states? There are no simple answers to these questions. **Presently there is no standard definition of school dropout (inclusion of GED students, summer dropouts, transfers to private schools, etc.) among the 50 states, and there are wide variations in the data collection, calculation, and reporting methods used by states and by districts within some states.** Fortunately, North Carolina is implementing a standard annual, September-to-September dropout accounting system for identification of any student in grades 1-12 who leaves public school before graduation. North Carolina is also one of 30 states participating in the National Center for Educational Statistics' field test of dropout data collection and reporting procedures.

Meanwhile, it is important to understand the types of rates which have been and are now being reported: (1) status rates which measure the proportion of non-graduates/ dropouts in the population at a given time, (2) event/annual/cross-sectional rates which measure the proportion of students who drop out of school in a single year, and (3) cohort rates which measure the proportion of students in a specified group who drop out of school over a period of time. In North Carolina, status rates are provided by census data; 45 percent of the N.C. population 25 years old and over as counted in the 1980 census had completed less than four years of high school. Both the Information Center's estimates (6.7 percent for grades 9-12 in 1987-88) and the comprehensive dropout accounting procedures developed by DPI's Dropout Prevention Section are efforts to provide accurate event/annual rates for specific grade levels. The third type, cohort rate or estimate, is being provided by the longitudinal N.C. Dropout and At Risk Studies which trace the academic careers of a group (cohort) of eighth- or ninth-grade students until one year after their nominal graduation date. On the basis of the 1988 study, the cohort dropout rate is estimated to be 23 to 25 percent for students who have reached spring of the ninth-grade year. However, the U.S. Department of Education's most recent adjusted graduation rate for North Carolina, calculated chiefly by subtracting the number of 1987 high school graduates from the public school ninth-grade enrollment four years earlier, is estimated to be 67.8 percent from which the extrapolated dropout estimate is 32.2 percent. Thus, there are discrepancies even within types of rates being used. Nevertheless, estimates are helpful in that they indicate patterns and trends, generate questions, and focus attention to relevant issues.

DEMOGRAPHIC VARIABLES

Compared to graduates, dropouts are more likely to have parents with lower education levels and lower average income. Those at particular risk are American Indian students, students enrolled in migrant education and Chapter 1 programs, students whose parents have less than a high school education, and students classified as Educable Mentally Handicapped or Learning Disabled.

In contrast to the national profile of dropouts, the results of recent N.C. studies indicate that statewide there are no appreciable gender differences in estimated probability of dropout (23.9 percent for females and 22.9 percent for males) and no appreciable differences in the estimated probability of dropout for blacks (21.5 percent) and whites (23.4 percent)

Successful dropout prevention plans are based on the characteristics of individual students in a particular school in a particular community in a particular area. Although national and state profiles of at-risk students are useful for comparison purposes, stereotypical views of at-risk students may be derived from them and, thus, inappropriate or inadequate programs developed for local students. As others have observed, "Don't base your program on someone else's problem/data."

Caution should be used when examining single demographic factors. For example, when W2 rates (estimated nine-month dropout rates) were calculated for the 267 high schools for which information was available in the legislative commission study, single factors such as size of the high school, racial composition, or percentage of low socioeconomic status (free-lunch participation) students in the school were not necessarily predictive of high W2 rates. Instead, some unexpected outcomes were: (a) the 51 schools with more than 1200 students and the 52 high schools with less than 500 students had lower average W2 rates than schools in the mid-size ranges, (b) the 27 high schools with 50-75 percent black enrollment had the lowest average W2 rate, and (c) schools with only 10-20 percent free lunch participation had a higher average W2 rate than schools with 21-30, 31-40, and 40 percent and above participation. Some possible reasons for these findings are the support systems--peer support and school support/services--available for students. For some minority and low socioeconomic students, the size of the peer group to which they can relate may be an important factor in the stay-in-school decision. Also, schools with more than 1200 students receive more funding which, in turn, may be used to provide more student services.

Demographic profiles may negatively influence educators' expectations of students who "fit" a profile. For example, when school personnel in the commission study were interviewed regarding dropout issues, attitudes expressed in the comments of teachers and administrators in the high-dropout-rate schools were more likely to be based on perceptions formed by the demographics of the student population (i.e., the problem originates outside the school and is largely beyond the control of the school), whereas the comments of administrators and teachers in low dropout schools tended to be based on specific strategies for identified problems and on evidence of progress (i.e., we "can do").

These differing comments were from school personnel whose schools had been matched on student and school characteristics.

SCHOOL BEHAVIOR AND PERFORMANCE

Pre-School Attendance. From the pre-school data available in the 1988 study and the At Risk Study, it is known that **more graduates (81 percent) than dropouts (60 percent) attended some type of schooling before first grade.** However, because public school kindergartens were being piloted when some of these students (those retained twice) were of kindergarten age, not all students may have had access to kindergarten. Today efforts are being made to ensure the availability of appropriate pre-school programs for three - and four-year olds and to improve current kindergarten programs by making them more developmentally appropriate.

Academic Performance. **Compared to graduates, dropouts are more likely to have experienced academic difficulties, such as lower standardized achievement test scores and retentions, early in their academic careers.** As shown in the N.C. Dropout and At Risk Studies, differences in achievement test performance between the graduates/ continuing students and the dropouts were present as early as the first grade and increased over time. For both groups, reading performance was lower than mathematics performance. There were substantial performance differences between the two groups by the time they reached the sixth grade, with 81 percent of the dropouts (compared to 48 percent of the graduates) scoring below the national median/middle on the CAT total battery.

The performance differences continue at the high school level, with the first-year dropout group having the lowest average eighth-grade CAT total battery scores of all dropout groups and the largest number of students in Chapter 1 remediation. Second-year dropouts had higher average scores; third-year dropouts had still higher scores, etc. The performance levels of dropouts who have returned to high school are more similar to later dropouts than to first- and second-year high school dropouts in the following areas: fewer absences, higher average CAT scores, higher average N.C. Competency Test scores, and higher enrollment in college preparatory classes.

Absences. **Each school year the dropouts exhibit more days absent than graduates, and the differences between the two groups increase with each year in high school.**

Repeated absences are a signal of student problems, and school monitoring and follow-through activities are needed. Some parents of dropouts interviewed in 1988 reported that they had received no communication from the school of the student's excessive absenteeism or possible course failure. Comments from dropouts interviewed in the summer of 1989 indicate that stringent attendance policies (i.e., course failure based on a specific number of absences, with no opportunities for making up missed work) may be pushing some students out of school. Consistent with this, school principals interviewed in the legislative commission study noted that stricter policies alone have not been successful in reducing dropout rates.

Repeated Grades. **Students who repeat one or more grades are more than twice as likely to drop out of school than are students not repeating grades.** Available data from the on-going At Risk Study suggest that the dropout group had a higher percentage of students repeating at every grade level from kindergarten to grade 9. Continuing students tended to have repeated grades 1-3 and grade 9. Among the dropout group, the most frequently repeated grades were the early grades (grades 1-4) and grades 7-9, with the largest number (about one-fourth) repeating grade 9. Consistent with this, transcript reviews in the commission study showed that 41 percent of that dropout group had been retained in either grade 9 or 10, with 13 percent retained in grade 9 twice.

There is a clear pattern of older students dropping out at earlier grade levels in high school, with the average age of ninth-grade dropouts being 17 years and 7 months. The average age of first-year high school dropouts is in conflict with the stereotype of the non-motivated student who leaves school at the first opportunity. It suggests, instead, that there are some students who continue to pursue an education in spite of a lengthy period of academic difficulties and repeated failure experiences. It is these students who are the least likely to return to high school, perhaps because, based upon previous experiences, they perceive little hope of academic success and graduation.

Discipline Problems. **As with students who repeated grades, students with reported discipline problems are twice as likely to drop out than students with no reported problems, and the severity of the discipline problem increases the likelihood of dropping out.** Based on the 1988 study, it is estimated that two-thirds of the public high school students who are expelled or given long-term suspension and more than one-half of those who experience short-term (10 days or less) out-of-school suspension will not return to school.

For some students, out-of-school suspension when combined with attendance policy constraints may equal a "push out" policy. There appears to be a need for alternative disciplinary strategies which do not impinge on classroom attendance and participation. Of course, the intensity, frequency, and duration of problem behaviors must be considered. As for current in-school suspension (ISS) programs, wide variation in the implentation and effectiveness of these programs has been reported, and school administrators have requested more discretion in the use of funds allocated for ISS. Presently total dropout prevention funds consist of one ISS position per high school and any additional funding based on ADM (average daily membership) in grades 7-12.

Curricular "Choices". The curriculum in which a student is enrolled is another indicator of probability of dropping out. The curricula currently available to students are college preparatory, vocational, and general. In national studies, the vocational track is the curriculum in which the highest proportion of U.S. teenage dropouts have been enrolled, but in North Carolina **students in the general curriculum are at higher risk of dropping out.** Some possible reasons for this are the effectiveness of vocational programs, ineffectiveness of some general curriculum programs, more students being counseled into the general curriculum, and scheduling decisions based upon administrative expediency.

The large proportion of dropouts enrolled in the general curriculum indicates a need for examination of curricular issues. How do the curricula differ in content and what are the expectations of students? Many vocational education programs are characterized by smaller class size, more materials based on the needs/skills level of the individual student, attention to student interests and "hands on" learning, guided opportunities for success, and co-curricular activities/clubs. Depending upon the size of the vocational programs, a student may also be in several classes with the same teacher(s), a situation which provides more opportunities for discussing academic and personal matters.

Employment While in School. **A larger number of graduates (68 percent) than dropouts (44 percent) report having held a regular part-time job while in school. However, dropouts who worked part-time tended to work longer hours and to report more job interference with school; more than half worked more than 20 hours per week.** In the two most recent studies, most of the dropouts appear to be choosing work over school for reasons other than, or in addition to, financial need; only two percent reported that employment was necessary. The employment data collected so far suggest that further study is needed of student reasons for working as well as the types of work experiences in which all students are involved: the nature of the work, the numbers of hours per day and week, the days per week, the time of day, the extent of weekend and summer work versus weekday and school term work, and the types and quality of school-referral work experiences available to students.

TIME OF LEAVING

In the 1988 study in which students were followed for a four-year period, 17 percent of the dropouts left school in grade 9, 29 percent in grade 10, 33 pecent in grade 11, and 21 percent in grade 12. The time of year for leaving school for ninth graders was generally during the summer before the 10th grade, while grade 11 and 12 students most often left during the school term. An equal number of tenth graders left during the summer and the school term. More than 65 percent of the dropouts in the 1987-88 state-collected data were 16 or 17. Although state law mandates school attendance until age 16, fourteen percent were below 16. Among the high-dropout-rate schools in the commission study, more than half of the recent dropouts left school when they were 16 or younger. Thus, high dropout schools were characterized not only by more students leaving school but also by students leaving at an earlier age.

STUDENT-REPORTED REASONS FOR LEAVING SCHOOL

Student-reported reasons for leaving school are chiefly school-related: general dislike of school, academic performance, conflict with teachers and/or administrators, attendance problems, and disciplinary actions. Some comments about ways to improve school offered by dropouts interviewed in summer 1989 were: provide more individualized instruction, be more sensitive to student problems and needs, make school less boring, and allow students an opportunity to make up work missed during

absences. Again in the 1988 study, the largest number of suggestions by the dropout group were administrative (teacher and administrator) changes and programs changes. It is noteworthy that a higher percentage of graduates than dropouts suggested policy and program changes when it is the dropouts who, as a group, have more reported discipline problems, poorer attendance rates, etc. and lower performance in some programs than the graduates. Perhaps students who leave school perceive less likelihood of influencing programs and policies or they may be less aware of procedures for bringing about any changes in school policies and programs.

One third of the dropouts interviewed in 1989 reported that five or more friends had left school. Only general information about peer pressures or problems is available, yet about 3 percent of the interviewees in the 1988 study cited them as reasons for leaving school and another 3 percent cited them as a contributing factor in the decision to leave. This area will be explored more fully in the 1991 phase of the At Risk Study.

Twenty-nine pecent of the dropouts in the 1988 study and 15 percent (22 pecent of the females) of those who have dropped out so far in the At Risk Study have reported marriage, pregnancy, or child care as a reason for leaving school. In the single school year 1987-88, 7.5 percent of all dropouts gave these reasons for dropping out. Others have reported pregnancy-related health problems and absences. Trends in this area will be closely monitored in the annual state collection of K-12 dropout data. More information needs to be shared about programs which have been effective in keeping these students in school and/or helping them to re-enter school and assisting them with child care, etc.

Although none of the dropouts interviewed by telephone have reported drug and alcohol use as a contributing factor in the decision to leave school, continuing students surveyed in the legislative commission study indicated alcohol and drug use as one of the "strongest reasons" for some students leaving school. DPI's Alcohol and Drug Defense Program will continue statewide surveys and the exploration of, among other things, the relationship between students' substance use and their risk of dropping out. Although the relationships observed in the 1987 survey results may be caused by some other factor(s), substance use and increases in substance use were associated with lower average grades, and unfavorable or descending perceptions of school climate were strongly associated with increasing substance use.

FAMILY

As noted earlier, dropouts are more likely to have parents with lower education levels and lower average income. Of the dropouts interviewed in the 1988 study, more than half reported that another family member had dropped out, and 34 pecent reported that no one in the family had objected to the student's leaving school. Nonetheless, **there appears to be no relationship between a family's reactions to the dropout decision and the fact that a parent or sibling had also dropped out of school.** In fact, almost half of the dropouts who reported no family objections were the first in the family to drop out.

When parents of dropouts were interviewed in the legislative commission study, many of them reported that they had received no forewarning of students' course failures or excessive absenteeism until report card information was mailed or students had already withdrawn when non-promotion seemed inevitable. For whatever reasons, these parents were uninformed of student progress, and they reported feeling powerless to influence change. The parent reports indicate a need in some schools to improve communication with parents and to provide opportunities for parents to support the learning process at home and at school.

About 7 percent of the dropouts in grades K-12 during 1987-88 reported "unstable home environment" as the primary reason for leaving school, and another 2 percent reported that employment was necessary. Few students reported family problems in the 1983 and 1988 studies which traced high school students over a four-year period. However, of the dropouts in the At Risk Study who have returned to school, more than half reported family or economic problems as the reason for leaving school and improvements in these factors as the reason for returning to school. Some have dropped out again. The plight of these students raises questions about teacher knowledge of student concerns and about the availability and accessibility of counseling services for situational crises. Even when counseling services are available, counseling sessions generally take place during class time which means that a student must miss classwork (and sometimes collect another absence toward the policy limit) to talk with counselors.

POST-SCHOOL EXPERIENCES

Education. **Fifty-three percent of the dropout group interviewed in the 1988 study had received some form of additional education after leaving school.** Twenty-four percent had completed or were enrolled in a GED/high school equivalency degree or an adult diploma program within four years of ninth-grade attendance, 13 percent had completed one of these programs and entered college, and another 16 percent had either attended a technical or community college or received training in the armed forces. Half had planned to seek this additional education at the time they left public school; half decided to do so only after leaving school. The large number of dropouts reporting enrollment in or completion of a GED or adult diploma program leads to several questions regarding accuracy/completeness of present dropout rates, referral and follow-up of dropouts, the numbers of students completing the programs, etc. Increased collaboration between public schools and community colleges is needed for the development of an effective referral and follow-through system. Similar efforts are needed for job training programs, such as Job Corps, as well.

Employment. Seventy percent of the dropout group interviewed in 1988 were employed; 78 percent of the students in the At Risk Study who dropped out within the last three years were employed. **Data from the 1989 interviews indicate that although most dropouts had been employed at some time since leaving school, they tended to change jobs frequently and many were employed in positions with minimum-wage salaries.** Although the majority of dropouts interviewed reported that they supported themselves,

about 85 percent remained in the family home and about 65 percent reported accepting financial assistance from the family when needed.

Some Next Steps

■ **Support efforts for a standard definition of a school dropout and for consistency and reliability in collecting data and in computing and reporting dropout rates.** Standard procedures are needed in order to assess the extent of the dropout problem.

■ **Collect and interpret local data (for each high school and its feeder schools). Don't base programs on someone else's students and problems.** Data collection and analysis procedures such as those described in this report can provide useful information for each school. Because the data have not been available, it has often been necessary to rely on personal experience and profiles, models, and programs described or proposed by others. As a result, some identification procedures, plans, and programs have been based upon stereotypical views of at-risk children and youth. In planning programs at the local level, it is important to examine the assumptions upon which actions/programs have been based.

■ **Increase monitoring efforts at the school level; move beyond "bureaucratic body counts."** Monitoring requires a shift of emphasis. Often school "images" and budgetary increases/rewards are based on the number and visibility of new programs developed, not on the daily monitoring and follow-through activities at the school level. Because of budgetary or organizational constraints, monitoring becomes minimal or sporadic. Effective, continuous monitoring requires full-time intervention specialists/counselors and the networking of adults and services to ensure that children or youth at risk are identified and receive the help they need.

■ **Evaluate the effectiveness of existing programs for at-risk children and youth.** Also, evaluate the impact of state and local policies on the dropout rate.

■ **Share information.** Administrators of high dropout schools were less aware of what other schools and districts with similar characteristics were doing to prevent students' dropping out. Some schools do much better than others (with similar resources) in educating comparable high-risk students. Information on successful strategies devised for dealing with specific local characteristics and problems may be helpful to others.

■ **Address recent task force and legislative commission recommendations.** During the 1988-89 school year, two major groups examined dropout and at-risk issues and made both policy and program recommendations. It is important that educators be familiar with these recommendations and their rationale, that the recommendations be discussed, and that support be garnered for those upon which agreement can be reached. The recommendations of the two groups are summarized below.

Joint Legislative Commission on Governmental Operations. Some recommendations resulting from the 1988 legislative commission study of dropout factors in secondary schools are as follows:

- establishment of comprehensive learning centers at all grade levels
- development of appropriate materials for reading and mathematics skill remediation
- increased and improved counseling resources for at-risk youth as an alternative to ISS staff funding
- DPI technical assistance to high-dropout-rate high schools
- Changes at the critical age of 16: higher legal driving age, higher mandatory school attendance age, and employment restrictions for teenagers

At-Risk Children and Youth Task Force. In April 1988, the Council of Chief State School Officers awarded competitive grants to 11 states to initiate activities leading to policy/legislative proposals "to guarantee appropriate educational and related services for at-risk children and youth." North Carolina was one of those states receiving a grant. A twelve-member task force, composed of representatives from the North Carolina General Assembly, local school systems, state agencies, the judicial system, the business community, higher education, and a parents' group, published a report of their recommendations in July 1989. Based upon input from presentations, a survey of educators working with at-risk youth, and a statewide forum, the following programs and actions were recommended:

- Developmentally appropriate pre-school programs for three- and four-year olds
- Early identification of learning and behavior difficulties
- Assessment of learning styles
- Personal education plans as in summer school programs
- Alternative programs for high-risk students
- Program and funding flexibility, with evaluation based on student and school outcomes
- Full-time intervention specialists/counselors
- Before- and after-school programs
- Review of compulsory attendance and student work-hours laws
- Participation by all students in the vocational curriculum
- Pre-service and in-service education for teachers
- Review of DPI resources related to at-risk students
- Collaboration of the public schools and community colleges in follow-up of students who leave school
- Parenting skills programs
- Formal networking of schools and public agencies
- Collaborative efforts between schools and communities/businesses

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The following is the State Board of Education's definition of at-risk students which is used for identifying students and for the establishment of new programs to meet their needs: Students at risk are defined as children and youth who, because of a wide range or personal, familial, social or academic circumstances, may experience school failure without intervention to reduce the risk factors. Factors to identify these children include: school performance at two or more years below grade level; CAT scores below the 25th percentile; academic failure; non-promotion, truancy; substance abuse; delinquency; disinterest in school; low self-esteem; learning disabilities; physical or mental health problems; physical or sexual abuse; pregnancy; unstable home environment; family income at or below the poverty level; low parental education; and limited English proficiency.